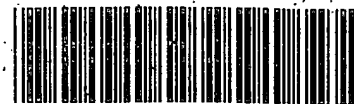


#8
DMT
3-20-02

1647



OIKE

RAW SEQUENCE LISTING

DATE: 02/13/2002

PATENT APPLICATION: US/09/647,067

TIME: 12:54:10

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

RECEIVED

MAR 14 2002

TECH CENTER 1600/2900

ENTERED

4 <110> APPLICANT: Hsueh, Aaron J. W.
5 Hsu, Sheau Yu
6 Liang, Shan-Guang
7 Van Der Spek, Petrus Johannes
9 <120> TITLE OF INVENTION: Novel Mammalian G-Protein Coupled
10 Receptors Having Extracellular Leucine Rich Repeat Regions
13 <130> FILE REFERENCE: STAN-084
15 <140> CURRENT APPLICATION NUMBER: 09/647,067
16 <141> CURRENT FILING DATE: 2000-09-25
18 <150> PRIOR APPLICATION NUMBER: PCT/US99/06573
19 <151> PRIOR FILING DATE: 1999-03-25
21 <150> PRIOR APPLICATION NUMBER: 60/079,501
22 <151> PRIOR FILING DATE: 1998-03-26
24 <160> NUMBER OF SEQ ID NOS: 8
26 <170> SOFTWARE: FastSEQ for Windows Version 4.0
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 2856
30 <212> TYPE: DNA
31 <213> ORGANISM: homo sapiens
33 <400> SEQUENCE: 1
34 atgccggggc cgttagggct gctctgcttc ctgcacctgg ggtgctcgg ctgcggcggg 60
35 ccagcggcg cggcgcggc tctctgcgc ggcacctgca gctgcgacgg cgaccgtcgg 120
36 gtggactgct ccggaaagg gttgacggcc gtaccggagg gtctcagcgc cttcacccaa 180
37 gcactggata tcagtatgaa caatatcacc cagttaccag aagatgcatt taagagtttc 240
38 ccatttctag aggagctaca actggctggt aacgaccttt ctcttatcca tccaaaagcc 300
39 ttgtctgggc tgaagaact caaagtccta acactccaga ataatcagtt gagaacagtg 360
40 ccagtgaaag ccattcacgg actgagtgct ttgcagtcct tacgcttaga tgccaacct 420
41 attacctcag tcccgaggga cagttttgaa gggcttgctc agttacgcca tctgtggctg 480
42 gatgacaaca gcttgacgga agtgcccgty cgtccctca gcaacctgcc aacctgcag 540
43 gcgctgacct tggtctcaa caacatctca agcatccctg acttcgcttt caccaacctt 600
44 tcaagcttgg tggttctgca tctgcataac aataaaatta aaagcctcag tcaacactgt 660
45 tttgatggac tagataacct ggaaaccttg gacttgaatt acaattactt ggatgagttt 720
46 cctcaggcta ttaaagccct tcccagcctt aaagagctgg gatttcacag taattctatt 780
47 tctgttattc ctgatggagc atttggtggt aatccactgc taagaactat tcatttgtat 840
48 gataatcctc tgtcttttgt ggggaactca gcatttcaca acctgtctga tctgcattgc 900
49 ttagtcattc gtggtgcaag cctggtgcag tggttcccca atctgaccgg aactgtccat 960
50 ttggagagtc taaccttgac agggacaaaa ataagcagca tacctgatga tctgtgccaa 1020
51 aacaaaaaga tgctgaggac tctggactta tcttataaca atataagaga ccttccaagt 1080
52 tttaatggtt gtcgtgcatt ggaagaaatt tcattgcagc gtaatcaaat ctccctaata 1140
53 aaggaaaata cttttcaagg cctaacatct ctaaggattc tagatctgag tagaaacctg 1200
54 atccgtgaaa ttcacagtgg agcttttgcg aagcttggga caattactaa cctggatgta 1260
55 agtttcaatg aattaacttc atttctacg gaaggcctaa atgggctcaa tcaactaaag 1320
56 cttgtgggta acttcaagct gaaagacgcc ttggcagcca gagactttgc taatctcagg 1380

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/647,067

DATE: 02/13/2002

TIME: 12:54:10

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

```

57 tctctatcag taccatatgc ttatcagtgt tgtgcatttt gggggtgtga ctctttatgc 1440
58 aaattaaaca cagaagataa cagcccccaa gaacacagtg tgacaaaaga gaaaggtgct 1500
59 acagatgcag caaatgtcac cagcactgct gagaacgaag aacatagcca aataattatc 1560
60 cactgtacac cttcaacagg tgctttcaag ccctgtgaat atttactggg aagctggatg 1620
61 attgcctta cagtgtggtt cattttcctg gtgccttgc ttttcaacct gcttgtcatt 1680
62 ttaacagtgt ttgcgtcttg ttcatcactg cctgcctcca aactcttcat aggcttgatt 1740
63 tctgtgtcta acttactcat gggcatctat actggcatcc ttacttttct tgatgctgtg 1800
64 tcctggggcc gatttgccga atttggcatt tgggtggaaa ctggcagcgg ctgcaaggta 1860
65 gccgggtctc tggcagtcct ctccctcagag agcgtgtgat tcctattaac actggcagct 1920
66 gtggaaagaa gcgtatttgc aaaggatttg atgaaacacg ggaagagcag tcacctcaga 1980
67 cagttccagg tggccgccct cttagctttg ctgggtgccg cagtggcagg ctgcttcccc 2040
68 cttttccacg gagggcaata ttctgcacgc cccttgtgtt tgccgtttcc tacaggagaa 2100
69 accccatcgt taggattcac tgtgacctta gtgctattaa actcactggc atttttacta 2160
70 atggccatta tctacactaa actatactgc aacttagaga aggaggacct gtcggaaaac 2220
71 tcccagtcta gcgtgattaa gcacgttgcc tggctcatct tcacaaactg catcttcttc 2280
72 tgccctgttg catttttctc atttgcacca ttgatcacgg caatctccat cagccccgag 2340
73 ataatgaagt ctgttacact gatattcttc ccgttgctg cttgcctgaa tccggctctg 2400
74 tatgttttct tcaacccaaa gtttaaagaa gactggaagc tactgaagcg gcgtgttacc 2460
75 aggaaacacg gatctgtttc agtttccatc agcagccaag gcggttgtgg ggaacaggat 2520
76 ttctactatg actgtggcat gtattccac ttgcagggtg acctgactgt ctgtgactgc 2580
77 tgtgagtcat ttcttttgac aaaaccagta tcatgcaaac acttaataaa atgcacagt 2640
78 tgtcctgtat tgacagcggc ctcttgccag aggccagagg cctactggtc tgattgtggt 2700
79 acacagtcag ccattctga ctatgcagat gaagaagatt cctttgtctc agacagctct 2760
80 gaccaggtgc aggcctgtgg acgagcctgc ttctaccaga gtcgtggatt ccctctggtg 2820
81 cgctatgctt acaatctaca gagagtcaga gactga 2856

```

83 <210> SEQ ID NO: 2

84 <211> LENGTH: 951

85 <212> TYPE: PRT

86 <213> ORGANISM: human

88 <400> SEQUENCE: 2

```

89 Met Pro Gly Pro Leu Gly Leu Leu Cys Phe Leu Ala Leu Gly Leu Leu
90 1 5 10 15
91 Gly Ser Ala Gly Pro Ser Gly Ala Ala Pro Pro Leu Cys Ala Ala Pro
92 20 25 30
93 Cys Ser Cys Asp Gly Asp Arg Arg Val Asp Cys Ser Gly Lys Gly Leu
94 35 40 45
95 Thr Ala Val Pro Glu Gly Leu Ser Ala Phe Thr Gln Ala Leu Asp Ile
96 50 55 60
97 Ser Met Asn Asn Ile Thr Gln Leu Pro Glu Asp Ala Phe Lys Ser Phe
98 65 70 75 80
99 Pro Phe Leu Glu Glu Leu Gln Leu Ala Gly Asn Asp Leu Ser Leu Ile
100 85 90 95
101 His Pro Lys Ala Leu Ser Gly Leu Lys Glu Leu Lys Val Leu Thr Leu
102 100 105 110
103 Gln Asn Asn Gln Leu Arg Thr Val Pro Ser Glu Ala Ile His Gly Leu
104 115 120 125
105 Ser Ala Leu Gln Ser Leu Arg Leu Asp Ala Asn His Ile Thr Ser Val
106 130 135 140
107 Pro Glu Asp Ser Phe Glu Gly Leu Val Gln Leu Arg His Leu Trp Leu

```

RAW SEQUENCE LISTING

DATE: 02/13/2002

PATENT APPLICATION: US/09/647,067

TIME: 12:54:10

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

108	145					150					155				160	
109	Asp	Asp	Asn	Ser	Leu	Thr	Glu	Val	Pro	Val	Arg	Pro	Leu	Ser	Asn	Leu
110					165					170					175	
111	Pro	Thr	Leu	Gln	Ala	Leu	Thr	Leu	Ala	Leu	Asn	Asn	Ile	Ser	Ser	Ile
112				180					185					190		
113	Pro	Asp	Phe	Ala	Phe	Thr	Asn	Leu	Ser	Ser	Leu	Val	Val	Leu	His	Leu
114			195					200					205			
115	His	Asn	Asn	Lys	Ile	Lys	Ser	Leu	Ser	Gln	His	Cys	Phe	Asp	Gly	Leu
116		210					215					220				
117	Asp	Asn	Leu	Glu	Thr	Leu	Asp	Leu	Asn	Tyr	Asn	Tyr	Leu	Asp	Glu	Phe
118	225				230					235					240	
119	Pro	Gln	Ala	Ile	Lys	Ala	Leu	Pro	Ser	Leu	Lys	Glu	Leu	Gly	Phe	His
120				245						250					255	
121	Ser	Asn	Ser	Ile	Ser	Val	Ile	Pro	Asp	Gly	Ala	Phe	Gly	Gly	Asn	Pro
122			260					265						270		
123	Leu	Leu	Arg	Thr	Ile	His	Leu	Tyr	Asp	Asn	Pro	Leu	Ser	Phe	Val	Gly
124			275					280					285			
125	Asn	Ser	Ala	Phe	His	Asn	Leu	Ser	Asp	Leu	His	Cys	Leu	Val	Ile	Arg
126		290					295					300				
127	Gly	Ala	Ser	Leu	Val	Gln	Trp	Phe	Pro	Asn	Leu	Thr	Gly	Thr	Val	His
128	305				310					315					320	
129	Leu	Glu	Ser	Leu	Thr	Leu	Thr	Gly	Thr	Lys	Ile	Ser	Ser	Ile	Pro	Asp
130				325					330						335	
131	Asp	Leu	Cys	Gln	Asn	Gln	Lys	Met	Leu	Arg	Thr	Leu	Asp	Leu	Ser	Tyr
132			340					345						350		
133	Asn	Asn	Ile	Arg	Asp	Leu	Pro	Ser	Phe	Asn	Gly	Cys	Arg	Ala	Leu	Glu
134		355					360					365				
135	Glu	Ile	Ser	Leu	Gln	Arg	Asn	Gln	Ile	Ser	Leu	Ile	Lys	Glu	Asn	Thr
136		370				375					380					
137	Phe	Gln	Gly	Leu	Thr	Ser	Leu	Arg	Ile	Leu	Asp	Leu	Ser	Arg	Asn	Leu
138	385				390					395					400	
139	Ile	Arg	Glu	Ile	His	Ser	Gly	Ala	Phe	Ala	Lys	Leu	Gly	Thr	Ile	Thr
140				405						410					415	
141	Asn	Leu	Asp	Val	Ser	Phe	Asn	Glu	Leu	Thr	Ser	Phe	Pro	Thr	Glu	Gly
142			420					425						430		
143	Leu	Asn	Gly	Leu	Asn	Gln	Leu	Lys	Leu	Val	Gly	Asn	Phe	Lys	Leu	Lys
144		435					440					445				
145	Asp	Ala	Leu	Ala	Ala	Arg	Asp	Phe	Ala	Asn	Leu	Arg	Ser	Leu	Ser	Val
146		450					455					460				
147	Pro	Tyr	Ala	Tyr	Gln	Cys	Cys	Ala	Phe	Trp	Gly	Cys	Asp	Ser	Leu	Cys
148	465				470					475					480	
149	Lys	Leu	Asn	Thr	Glu	Asp	Asn	Ser	Pro	Gln	Glu	His	Ser	Val	Thr	Lys
150				485						490					495	
151	Glu	Lys	Gly	Ala	Thr	Asp	Ala	Ala	Asn	Val	Thr	Ser	Thr	Ala	Glu	Asn
152			500					505						510		
153	Glu	Glu	His	Ser	Gln	Ile	Ile	Ile	His	Cys	Thr	Pro	Ser	Thr	Gly	Ala
154		515					520						525			
155	Phe	Lys	Pro	Cys	Glu	Tyr	Leu	Gly	Ser	Trp	Met	Ile	Arg	Leu	Thr	
156		530					535					540				

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/647,067.

DATE: 02/13/2002

TIME: 12:54:10

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

```

157 Val Trp Phe Ile Phe Leu Val Ala Leu Leu Phe Asn Leu Leu Val Ile
158 545 550 555 560
159 Leu Thr Val Phe Ala Ser Cys Ser Ser Leu Pro Ala Ser Lys Leu Phe
160 565 570 575
161 Ile Gly Leu Ile Ser Val Ser Asn Leu Leu Met Gly Ile Tyr Thr Gly
162 580 585 590
163 Ile Leu Thr Phe Leu Asp Ala Val Ser Trp Gly Arg Phe Ala Glu Phe
164 595 600 605
165 Gly Ile Trp Trp Glu Thr Gly Ser Gly Cys Lys Val Ala Gly Ser Leu
166 610 615 620
167 Ala Val Phe Ser Ser Glu Ser Ala Val Phe Leu Leu Thr Leu Ala Ala
168 625 630 635 640
169 Val Glu Arg Ser Val Phe Ala Lys Asp Leu Met Lys His Gly Lys Ser
170 645 650 655
171 Ser His Leu Arg Gln Phe Gln Val Ala Ala Leu Leu Ala Leu Leu Gly
172 660 665 670
173 Ala Ala Val Ala Gly Cys Phe Pro Leu Phe His Gly Gly Gln Tyr Ser
174 675 680 685
175 Ala Ser Pro Leu Cys Leu Pro Phe Pro Thr Gly Glu Thr Pro Ser Leu
176 690 695 700
177 Gly Phe Thr Val Thr Leu Val Leu Leu Asn Ser Leu Ala Phe Leu Leu
178 705 710 715 720
179 Met Ala Ile Ile Tyr Thr Lys Leu Tyr Cys Asn Leu Glu Lys Glu Asp
180 725 730 735
181 Leu Ser Glu Asn Ser Gln Ser Ser Val Ile Lys His Val Ala Trp Leu
182 740 745 750
183 Ile Phe Thr Asn Cys Ile Phe Phe Cys Pro Val Ala Phe Phe Ser Phe
184 755 760 765
185 Ala Pro Leu Ile Thr Ala Ile Ser Ile Ser Pro Glu Ile Met Lys Ser
186 770 775 780
187 Val Thr Leu Ile Phe Phe Pro Leu Pro Ala Cys Leu Asn Pro Val Leu
188 785 790 795 800
189 Tyr Val Phe Phe Asn Pro Lys Phe Lys Glu Asp Trp Lys Leu Leu Lys
190 805 810 815
191 Arg Arg Val Thr Arg Lys His Gly Ser Val Ser Val Ser Ile Ser Ser
192 820 825 830
193 Gln Gly Gly Cys Gly Glu Gln Asp Phe Tyr Tyr Asp Cys Gly Met Tyr
194 835 840 845
195 Ser His Leu Gln Gly Asn Leu Thr Val Cys Asp Cys Cys Glu Ser Phe
196 850 855 860
197 Leu Leu Thr Lys Pro Val Ser Cys Lys His Leu Ile Lys Ser His Ser
198 865 870 875 880
199 Cys Pro Val Leu Thr Ala Ala Ser Cys Gln Arg Pro Glu Ala Tyr Trp
200 885 890 895
201 Ser Asp Cys Gly Thr Gln Ser Ala His Ser Asp Tyr Ala Asp Glu Glu
202 900 905 910
203 Asp Ser Phe Val Ser Asp Ser Ser Asp Gln Val Gln Ala Cys Gly Arg
204 915 920 925
205 Ala Cys Phe Tyr Gln Ser Arg Gly Phe Pro Leu Val Arg Tyr Ala Tyr

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/647,067

DATE: 02/13/2002

TIME: 12:54:10

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

```

206      930      935      940
207 Asn Leu Gln Arg Val Arg Asp
208 945      950
211 <210> SEQ ID NO: 3
212 <211> LENGTH: 2082
213 <212> TYPE: DNA
214 <213> ORGANISM: homo sapiens
216 <220> FEATURE:
217 <221> NAME/KEY: misc_feature
218 <222> LOCATION: 768
219 <223> OTHER INFORMATION: n = A,T,C or G
221 <400> SEQUENCE: 3
222 ctacatctcc ataacaatag aatccactcc ctgggaaaga aatgctttga tgggctccac 60
223 agcctagaga ctttagattt aaattacaat aaccttgatg aattccccac tgcaattagg 120
224 acactctcca acttaagga actaggattt catagcaaca atatcaggtc gatacctgag 180
225 aaagcatttg taggcaaccc ttctcttatt acaatacatt tctatgacaa tcccatccaa 240
226 tttgttgga gatctgcttt tcaacattta cctgaactaa gaacactgac tctgaatggt 300
227 gcctcacaaa taactgaatt tcctgattta actggaactg caaacctgga gagtctgact 360
228 ttaactggag cacagatctc atctcttctt caaacctgtt gcaatcagtt acctaattctc 420
229 caagtgttag atctgtctta caacctatta gaagatttac ccagtttttc agtctgccaa 480
230 aagcttcaga aaattgacct aagacataat gaaatctacg aaattaaagt tgacactttc 540
231 cagcagttgc ttagcctcog atcgtgaat ttggcttgga acaaaattgc tattattcac 600
232 cccaatgcat ttccacttt gccatcccta ataaagctgg acctatcgtc caacctcctg 660
233 tegtcttttc ctataactgg gttacatggt ttaactcact taaaattaac aggaaatcat 720
234 gccttacaga gctggatata atctgaaaac ttccagaaac tcaaggtnat agaaatgcct 780
235 tatgcttacc agtgctgtgc atttggagtg tgtgagaatg cctataagat ttctaataca 840
236 tgggaataaag gtgacaacag cagtatggac gaccttcata agaaagatgc tgggaatgtt 900
237 caggctcaag atgaacgtga ccttgaagat ttctgtgttg actttgagga agacctgaaa 960
238 gcccttcatt cagtgcagtg ttacacctcc ccaggccctt tcaaaccctg tgaacacctg 1020
239 cttgatggct ggctgatcag aattggagtg tggaccatag cagttctggc acttacttgt 1080
240 aatgcttttg tgacttcaac agttttcaga tcccctctgt acatttcccc cattaaactg 1140
241 ttaattgggg tcatcgcagc agtgaacatg ctacgaggag tctccagtg cgtgctggct 1200
242 ggtgtggatg cgttcaacttt tggcagcttt gacgacatg gtgcctgggt ggagaatggg 1260
243 gttggttgcc atgtcattgg ttttttgtcc atttttgctt cagaatcacc tgttttctct 1320
244 cttactctgg cagccctgga gcgtgggttc totgtgaaat attctgcaaa atttgaaacg 1380
245 aaagctccat ttctagcct gaaagtaatc attttgcctt gtgcctgtct ggccttgacc 1440
246 atggcgcag ttccctgtct ggggtgcagc aagtatggcg cctccctctt ctgcctgcct 1500
247 ttgccttttg gggagccag caccatgggc tacatggctg ctctcatctt gctcaattcc 1560
248 ctttgccttc tcatgatgac cattgcctac accaagctct actgcaattt ggacaagggg 1620
249 gacctggaga atatttgga ctgctctatg gtaaaacaca ttgcctgtt gctcttcacc 1680
250 aactgcatcc taaactgccc tgtggctttc ttgtccttct cctctttaat aaaccttaca 1740
251 tttatcagtc ctgaagtaat taagtttata cttctggttg tagtccact tctgcatgt 1800
252 ctcaatcccc ttctctacat cttgttcaat cctcaactta aggaggatct ggtgagcctg 1860
253 agaaagcaaa cctacgtctg gacaagatca aaacacccaa gcttgatgtc aattaactct 1920
254 gatgatgtcg aaaaacagtc ctgtgactca actcaagcct tggtaacctt taccagctcc 1980
255 agcatcactt atgacctgcc tcccagttcc gtgccatcac cagcttatcc agtgactgag 2040
256 agctgccatc tttcctctgt ggcatttgct ccatgtctct aa 2082
258 <210> SEQ ID NO: 4
259 <211> LENGTH: 693

```

Use of n and/or Xaa has been detected in the Sequence Listing.
 Review the Sequence Listing to insure a corresponding
 explanation is presented in the <220> to <223> fields of
 each sequence using n or Xaa.

VERIFICATION SUMMARY

DATE: 02/13/2002

PATENT APPLICATION: US/09/647,067

TIME: 12:54:11

Input Set : A:\SEQUENCE LISTIN1.txt

Output Set: N:\CRF3\02132002\I647067.raw

L:234 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:575 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:576 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:577 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7